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IPART 25th Anniversary Conference

Water and electricity regulation – mutual lessons

Greg Houston, 27 October 2017

It is a real honour to address this conference, and reflect on 25 years of water and electricity sector regulation. There have been many changes in both these sectors over the two and half decades since the inception of IPART, and I hope to rise to the challenge of drawing out some long term themes and lessons, particularly as to what each sector can learn from the other.

What can water learn from electricity?

For the water sector, I have just one overarching principle that can be learned from the fortunes and misfortunes of electricity sector regulation, ie the achievement of greater efficiency in infrastructure-based services first requires a careful focus on structural reform, so that potentially competitive functions are structurally separated from those exhibiting natural monopoly characteristics.

This is a long established, straightforward and powerful principle for guiding micro-economic reform of the infrastructure sector.

In electricity, this principle was effectively applied in the reforms that took place in the 1990s, and manifested largely as the separation of the generation function from networks.

That reform, in combination with the establishment of half hourly (soon to be five minute) markets for wholesale electricity has been fundamental to the success of the electricity sector in terms of efficiency, and new investment.

It has also been fundamental to the success of the regulation of the network component of the electricity sector, largely uncomplicated by the issues that arise when competitive and monopoly functions are provided together.

It is worth noting, though, that in the first wave of structural reform, retailing was kept with distribution, principally out of concern that the transition to stand alone retailers would be too risky – eventually, the capital markets saw to it in Victoria and South Australia that this was not a natural fit.

However, the passage of time before the combination of distribution networks and electricity retailing was clearly established as not the right approach took much longer than it should have in NSW and Queensland.

The need to focus seriously on structural reform is a lesson that has not been taken up to the extent it could have been in the water sector.

I would be the first to acknowledge that the challenges in establishing some form of competition in bulk water supply and sewage treatment are significant. However, at almost every step where there has been an opportunity to do so, in both NSW and throughout the country, policy-makers have shied away from this potential.

I am thinking here of the failure in Victoria to extend trading in water rights to the metropolitan Melbourne system, even though it is subject to physical interconnection with the rest of the state, where trading in water is second nature.

I am also thinking of the succession of hastily-taken decisions to build desalination plants in each of Australia's capital cities, each in the teeth of the millennium drought, but in all cases to organise these capacity augmentations through exclusive arrangements with the incumbent bulk supplier.

I am also thinking of the unrealised prospect that Sydney's waste water could perhaps be re-captured, treated and used as recycled water, as envisaged by the early 2000s' entrepreneurial access seeker, Services Sydney.

The setting of retail minus access charges for Services Sydney virtually assured that potential form of competition would fail, and at no stage was consideration given to whether there may have been an appropriate and worthwhile structural reform to facilitate this possibility.

I am also thinking of the failure of the Water Industry Competition Act in NSW, where the prospect of retail competition in water has not been realised to any significant extent.

I recognise that each of these prospects may never have been any more than wishful thinking by their proponents, but I do wonder if the dead hand of incumbency and the influence that regulatory/access pricing decisions have on such potential, killed off some possibilities that should have been taken more seriously.

Focusing still on the basic principle that structural reform of the infrastructure sector is the best means to encourage competition and efficiency, there are also some lessons that the water sector can learn from electricity in the way of pitfalls to be avoided.

Structural reform for the purpose of introducing or strengthening competition is not easy, and constant vigilance is required in order to maintain a sufficient degree of competition.

One challenge I will note but not dwell, is that the boundaries between natural monopoly and competitive functions may need revisiting from time to time, as technology and circumstances change.

A pertinent, current example is the advent of battery storage of electricity, which has given rise to debates about whether this technology is a form of generation or of load, or a means of providing network support to manage peak demands.

Of course, storage technology is all three of these things. But the regulatory question arises as to the circumstances in which networks should – or should not – be allowed to invest in such technology – all under the umbrella of keeping separate natural monopoly from potentially competitive functions.

A more important dimension to the structural reform principle, for which I believe much greater vigilance is required, is achieving and maintaining effective competition in non-network elements.

In the wholesale electricity sector today, there is much finger pointing as to what and/or who is responsible for the extraordinary increases in price that have been experienced, and the challenges that have arisen in terms of supply reliability.

A similar phenomenon arises in the upstream gas sector, albeit with some important distinctions as to cause.

It would take much more than my allotted 15 minutes to go through all of the issues that have arisen and to offer an insightful analysis of them. But in urging the water sector to learn the lessons of structural reform as the basis for introducing competition, it would be remiss of me not to note that some policy/regulatory decisions taken the electricity sector have had a detrimental effect on competition.

There is no question that at least some of the wholesale market challenges we are now facing in the electricity sector would not be as severe if more vigilance had been shown in the quest to secure more effective competition in the generation market.

I am thinking here of the 2014 decision by the NSW government to sell Macquarie Generation to AGL, in preference to a probable alternative, lower-priced bidder.

At the time of its acquisition of Macquarie Generation, AGL was already one of three retailers that served 96 per cent of the retail market in NSW. It was also one of the top four generators in the NEM, mainly through plants in Victoria and South Australia.

These levels of concentration, particularly then on the retailing side of things, should have been (and, indeed, were) red flags to anyone with an interest in effectively competitive markets.

The ACCC reviewed the transaction and decided to oppose it on competition grounds. The ACCC saw it as preferable that Macquarie Generation's portfolio be sold to a more nascent player in the NEM, thereby seeding the prospect that the big three gentailers could become a 'big four'.

AGL, with the support of the NSW government, sought review of the ACCC's decision by the Competition Tribunal. After an expedited hearing, in June 2014 the Competition Tribunal cleared the transaction. I should disclose that I was an expert witness for the ACCC in that proceeding.

Although the prospect that the transaction would reinforce a 'big three' outcome for gentailing throughout the NEM was well canvassed by the ACCC, the Tribunal held that the clear extent of excess capacity in generation meant there would be not detriment to competition.

For those that do not live and breathe electricity, it might be helpful to note that the two generators comprising the MacGen portfolio were Bayswater and Liddell – 2640MW and 2000MW units, respectively.

Of course, those who live and breathe politics will recall that it is the impact on the wholesale market of the now planned closure of Liddell by AGL in 2022 that has been the subject of extraordinary, public strong-arming by the Prime Minister over the past two months.

I am confident in saying that no-one involved in that Competition Tribunal review process just three years ago could possibly have contemplated the controversy that we have seen in relation to Liddell power station over the past few months.

I took the trouble last night to look over the Competition Tribunal's decision in relation to that acquisition, and want to share with you one aspect that, with the benefit of hindsight, now seems extraordinary.

A critical factor in the Competition Tribunal's assessment was the then large amount of generation over-capacity in the NEM. Quoting the Tribunal, at paragraph 15:

> The NEM is currently oversupplied with capacity. This has arisen from both increasing new generation capacity and declining demand. The growth in capacity has particularly arisen from increased investment in wind and solar generation encouraged by renewable energy schemes. The fall in demand has been driven by rising retail prices (commonly attributed to increasing costs of transmission infrastructure, solar subsidies and carbon tax), the closure of energy-intensive industrial users such as aluminium smelters, and growth in rooftop solar systems. The current oversupply of capacity is expected to continue for some years into the future.

To my mind, the Competition Tribunal review process took an unnecessarily short-term view of the NEM. Although the steady stream of plant closures that had already taken place by mid-2014 was brought to the attention of the Tribunal, it did not put any weight on the prospect this trend may could continue, and so the excess capacity consideration that it relied upon for its competition clearance may evaporate.

Within less than three years, we have seen the April 2017 closure of the Hazelwood power station and the prospect that Liddell power station – one of the key assets acquired by AGL – may also close, both contributing significantly to the negative effects of concentration that has seen much higher wholesale power prices throughout the NEM.

There is no doubt that this structural misjudgement by the NSW policymakers, and the Competition Tribunal, is a decision that NSW electricity consumers are now living to regret.

What can electricity learn from water?

Aside from large structural differences between water and electricity secotors, there are two sharp distinctions in the manner in which regulation in these two sectors is conducted.

These are:

- first, that the degree of prescription in the regulation of electricity networks and the sector generally is poles apart from that in water; and
- second, we now have a multiplicity of national regulatory bodies in electricity, whereas NSW and most other states organise their water sector economic regulation under just one roof.

I want to say a little about both these arrangements because I do not think they are any longer serving us well, if they ever did.

Both sectors started in roughly the same place, ie, state based regulatory bodies implementing the craft of economic regulation, and adapting it as knowledge and sophistication increased, and relying on custom and practice to give stakeholders comfort as to how things were done, and would be done.

However, electricity took a sharp turn away from that style of regulation in the mid-2000s, in conjunction with the transfer of all the principal regulatory functions to national bodies. I am sure that most in the room will recall this ‘reform’.

The regulation of the electricity sector is characterised by a labyrinth-like set of rules that are world-leading in terms of their prescriptiveness. I would characterise these arrangements as the product of an elaborate process of writing down exactly what we do now, assume that noting much will changes, and enshrine the whole thing into a fixed set of rules.

And then ask a different body to apply those rules.

And in case things do need to change, let’s set up a specialist body to oversee that, and impose some very rigid processes on it for doing so.

Of course, I remind everyone that these arrangements were put in place with the strong encouragement by incumbent investors in the sector, all in the name of providing certainty.

The contrast with the style of economic regulation in the water sector is sharp, and telling.

In my opinion, the framework for electricity regulation has become unwieldy, and the process or revising the rules unsuitable for dealing with rapid technological and other change that is now challenging the sector.

These observations apply at both the network regulation and wholesale market level.

I offer by way of one, easy-to-understand example, the framework for determining the cost of capital for energy network businesses.

In 2006, this was codified to a very high degree of prescription, on the basis that good people had sorted out all the issues and financial markets had been stable for many years.

Within a year, the GFC struck and – predicably – the system failed to cope. Now, despite one major re-design to introduce a limited degree of flexibility, dissatisfaction remains widespread. However, in a further so-called reform, we are now headed back to the future with increased prescription, in the form of detailed, binding WACC guidelines, with no rights of review.

By contrast, the arrangements for determining the regulatory cost of capital in NSW water sector are far superior than those prevailing in electricity. They are flexible, both as to method and adaption over time, and stable – outcomes that IPART is to be congratulated for.

To my mind, the lesson is that flexibility in regulatory arrangements is essential for long term sustainability – flexibility is needed in terms of the boundaries of regulation, the process by which change comes about, and in the need to respond to changing financial and other market conditions.

Firstly, in thinking about how best to build, strong, effective regulatory institutions, I do wonder whether it is time to reconsider whether there is room for rethinking and, dare I say it, some consolidation of our energy sector regulatory institutions. At last count, there are five:

- AEMC
- AEMO
- AER
- ESB
- ACCC

In my opinion, these arrangements are not working nearly as effectively as they could be.

I'm not going to traverse a list of potential performance shortfalls, regulatory misjudgements, or instances of poor coordination that may have arisen as between the three, longstanding energy regulators.

Rather, I want to draw your attention to what I believe has been one of the most important recent contributions to the diagnoses of problems arising in the energy sector, being from the ACCC – an entity that is not even formally an energy sector regulator.

I am referring to the ACCC's two recent reports on:

- supply and demand circumstances in the upstream gas sector (normally, an AEMO role in the form of its annual 'GSOO'); and
- electricity price trends and retail/wholesale market competition (normally, roles performed by the AER /AEMC).

The distinction between the ACCC's contribution to these topics and the many other attempts that have been made by the specialist energy sector regulators to provide insight in relation to them is the ACCC's powers under the *Competition and Consumer Act 2004* to compel the production of information.

In my opinion, when a government needs to ask its competition enforcement agency to undertake a review of supply and demand for gas, and wholesale and retail energy prices and margins, because that agency has access to information than the specialist regulatory bodies do not, then there is a problem with our regulatory institutions.

I should stop there, but to summarise: the policy/regulatory focus should be on building strong, respected institutions rather than codifying every last step and consideration in the regulatory decision-making process.

On both these counts, the electricity sector has much to learn from water.

Thank you.